

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with 4/14/08 on 10:00 am.

The application has been amended as follows:

1. (Currently Amended) A method of displaying management information associated with a storage area network, the method comprising:
 - receiving an identity of a selected managed entity existing in a storage area network;
 - retrieving a first managed object from a management database that corresponds to the selected managed entity;
 - identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database;
 - graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network based on use of columns of icons, a first column including at least two icons graphically representing a managed software entity, a second column including at least two icons graphically representing a managed storage entity, at least a portion of the

sequence of relationships being graphically represented by relationship paths between icons in the first column and icons in the second column;

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graphically displaying a first container encompassing at least one of the first column of icons and the second column of icons;

in a separate region from the first column of icons and the second column of icons, initiating display of a particular icon representing a particular storage area network resource;

initiating display of a relationship path between the particular icon and a given icon in the first column;

receiving a command to expand a viewing of the particular icon;

in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of icons representing resources associated with the particular storage area network resource; and

in lieu of displaying a single relationship path between the particular icon and the given icon in the first column, initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column.

4. (Currently Amended) A method as in claim 1 further comprising:

allocating a visual region in relation to a corresponding icon to receive input commands; and

in response to detecting receipt of a generated input command in the visual region by a user, expanding the first relationship view of managed entities in the storage area network into an expanded relationship view including a fourth column of multiple icons disposed between the first column and the second column, relationship paths being displayed between icons in the first column and

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the fourth, column and between icons in the fourth, column and the second column, the icons in the fourth, column representing other previously hidden managed entities associated with the storage area network.

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8. (Currently Amended) A method as in claim 1 further comprising:

from the first relationship view including at least the first column and second column displayed in a first area of a display screen, detecting a user selection of a specific, icon in the first area; and

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in response to detecting the user selection of the specific, icon in the first area, generating a second relationship view in a second area of the display screen, the second relationship view including a presentation of relationships between a managed entity associated with the specific, icon and other associated nearest neighboring managed entities in the storage area network.

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15. (Currently Amended) A method for displaying management information associated with a storage area network, the method comprising:

displaying multiple icons representing corresponding managed entities in the storage area network, the multiple icons including at least one software icon associated with a managed software entity and at least one hardware icon associated with a managed hardware entity;

displaying the at least one software icon in a first column of icons;

displaying the at least one hardware icon in a second column of icons, the first column being disposed adjacent to the second column;

displaying associations among the managed entities via relationship paths between the icons of the first column and icons of the second column;

in a separate region from the first column of icons and the second column of icons, initiating display of a particular icon representing a particular storage area network resource;

initiating display of a relationship path between the particular icon and a given icon in the first column;

receiving a command to expand a viewing of the particular icon;

in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of icons representing resources associated with the particular storage area network resource; and

in lieu of displaying a single relationship path between the particular icon and the given icon in the first column, initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column.

22. (Currently Amended) A computer system for supporting relationship views associated with a storage area network, the computer system comprising:
- a processor;
 - a memory unit that stores instructions associated with an application executed by the processor;
 - a communication interface that supports communication with other nodes of the storage area network; and
 - an interconnect coupling the processor, the memory unit, and the communication interface, enabling the computer system to execute the application and perform operations of:

receiving an identity of a selected managed entity existing in a storage area network;

retrieving a first managed object from a management database that corresponds to the selected managed entity;

identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database;

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graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network based on use of columns of icons, a first column including at least one icon graphically representing a managed software entity, a second column including at least one icon graphically representing a managed storage entity, at least a portion of the sequence of relationships being graphically represented by relationship paths between the at least one icon in the first column and the at least one icon in the second column;

in a separate region from the first column of icons and the second column of icons, initiating display of a particular icon representing a particular storage area network resource;

initiating display of a relationship path between the particular icon and a given icon in the first column;

receiving a command to expand a viewing of the particular icon;

in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of icons representing resources associated with the particular storage area network resource; and

in lieu of displaying a single relationship path between the particular icon and the given icon in the first column, initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column.

25. (Currently Amended) A computer system as in claim 22 that additionally performs operations of:

allocating a visual region in relation to a corresponding icon to receive input commands; and

in response to detecting receipt of a generated input command in the visual region by a user, expanding the first relationship view of managed entities in the storage area network into an expanded relationship view including a fourth, column of multiple icons disposed between the first column and the second column, relationship paths being displayed between icons in the first column and the fourth, column and between icons in the fourth, column and the second column, the icons in the fourth, column representing other previously hidden managed entities associated with the storage area network.

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29. (Currently Amended) A computer system as in claim 22 that additionally performs operations of:

from the first relationship view including at least the first column and second column displayed in a first area of a display screen, detecting a user selection of a specific, icon in the first area; and

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in response to detecting the user selection of the specific icon in the first area, generating a second relationship view in a second area of the display screen, the second relationship view including a presentation of relationships between a managed entity associated with the specific icon and other associated nearest neighboring managed entities in the storage area network.

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36. (Currently Amended) A computer system for displaying relationship views associated with a storage area network, the computer system comprising:
- a processor;
 - a memory unit that stores instructions associated with an application executed by the processor;
 - a communication interface that supports communication with nodes of the storage area network; and
 - an interconnect coupling the processor, the memory unit, and the communication interface, enabling the computer system to execute the application and perform operations of:
 - displaying multiple icons representing corresponding managed entities in the storage area network, the multiple icons including at least one software icon associated with a managed software entity and at least one hardware icon associated with a managed hardware entity;
 - displaying the at least one software icon in a first column;
 - displaying the at least one hardware icon in a second column, the first column being disposed adjacent to the second column;
 - displaying associations among the managed entities via relationship paths between the icons of the first column and icons of the second column;

in a separate region from the first column of icons and the second column of icons, initiating display of a particular icon representing a particular storage area network resource;

initiating display of a relationship path between the particular icon and a given icon in the first column;

receiving a command to expand a viewing of the particular icon;

in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of icons representing resources associated with the particular storage area network resource; and

in lieu of displaying a single relationship path between the particular icon and the given icon in the first column, initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column.

43. (Currently Amended) A method of displaying management information associated with a storage area network, the method comprising:

receiving an identity of a selected managed entity existing in a storage area network;

retrieving a first managed object from a management database that corresponds to the selected managed entity;

identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on

information in the first managed object and other corresponding managed objects in the management database; and

graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network based on use of adjacent columns of icons, a first column including at least one icon graphically representing a managed software entity, a second column including at least two icons graphically representing managed entities, a third column of at least two icons graphically representing managed storage entities, the sequence of relationships being graphically represented by at least some diagonal relationship paths between the at least one icon in the first column, the at least two icons in the second column, and the at least two icons in the third column

in a separate region from the first column of icons and the second column of icons, initiating display of a particular icon representing a particular storage area network resource;

initiating display of a relationship path between the particular icon and a given icon in the first column;

receiving a command to expand a viewing of the particular icon;

in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of icons representing resources associated with the particular storage area network resource; and

in lieu of displaying a single relationship path between the particular icon and the given icon in the first column, initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column.

45. (Currently Amended) A computer program product including a computer-readable medium having instructions stored thereon for processing data information, such that the instructions, when carried out by a processing device, enable the processing device to perform the steps of:
- receiving an identity of a selected managed entity existing in a storage area network;
 - retrieving a first managed object from a management database that corresponds to the selected managed entity;
 - identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database; and
 - graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network based on use of columns of icons, a first column including at least one icon graphically representing a managed software entity, a second column including at least one icon graphically representing a managed storage entity, at least a portion of the sequence of relationships being graphically represented by relationship paths between the at least one icon in the first column and the at least one icon in the second column;
- in a separate region from the first column of icons and the second column of icons, initiating display of a particular icon representing a particular storage area network resource;
 - initiating display of a relationship path between the particular icon and a given icon in the first column;
 - receiving a command to expand a viewing of the particular icon;
 - in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of

icons representing resources associated with the particular storage area network resource; and

in lieu of displaying a single relationship path between the particular icon and the given icon in the first column, initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column.

46. (Currently Amended) A computer system for supporting relationship views associated with a storage area network, the computer system including:
- means for receiving an identity of a selected managed entity existing in a storage area network;
 - means for retrieving a first managed object from a management database that corresponds to the selected managed entity;
 - means for identifying a sequence of relationships between the selected managed entity and other managed entities in the storage area network based on information in the first managed object and other corresponding managed objects in the management database; and
 - means for graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network based on use of columns of icons, a first column including at least one icon graphically representing a managed software entity, a second column including at least one icon graphically representing a managed storage entity, at least a portion of the sequence of relationships being graphically represented by relationship paths between the at least one icon in the first column and the at least one icon in the second column;
- means for initiating display of a particular icon representing a particular storage area network resource in a separate region from the first column of icons and the second column of icons;

means for initiating display of a relationship path between the particular icon and a given icon in the first column;

means for receiving a command to expand a viewing of the particular icon;

means for expanding the particular icon to include a third column of icons in response to receiving the command, the third column of icons including a group of icons representing resources associated with the particular storage area network resource; and

means for initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column in lieu of displaying a single relationship path between the particular icon and the given icon in the first column.

53. (Canceled) A method as in claim 1 further comprising:

54. (Canceled) A method as in claim 53, wherein expanding the particular icon includes:

55. (Currently Amended) A method as in claim 1, further supporting operations of:

in addition to expanding the particular icon to include the third column of icons, initiating display of a second container to encompass the particular icon as well as the third column of icons, the second container illustrating that the third column of icons represents storage area network resources associated with the particular resource represented by the particular icon.

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initiating display of a relationship path between the particular icon and a given icon in the first column; ¶
receiving a command to expand a viewing of the particular icon; and ¶
in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of icons representing resources associated with the particular storage area network resource. ¶

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Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: In light of the applicant's arguments filed in 4/2/08, the prior art fails to teach individually and in combination:

graphically displaying a first relationship view of the selected managed entity and at least one other managed entity of the storage area network based on use of columns of icons, a first column including at least two icons graphically representing a managed software entity, a second column including at least two icons graphically representing a managed storage entity, at least a portion of the sequence of relationships being graphically represented by relationship paths between icons in the first column and icons in the second column;

graphically displaying a first container encompassing at least one of the first column of icons and the second column of icons;

in a separate region from the first column of icons and the second column of icons, initiating display of a particular icon representing a particular storage area network resource;

initiating display of a relationship path between the particular icon and a given icon in the first column;

receiving a command to expand a viewing of the particular icon;

in response to receiving the command, expanding the particular icon to include a third column of icons, the third column of icons including a group of icons representing resources associated with the particular storage area network resource; and

in lieu of displaying a single relationship path between the particular icon and the given icon in the first column, initiating display of multiple relationship paths between icons in the third column and icons in the first column to illustrate

that resources associated with the particular resource in the third column are related to resources represented by icons displayed in the first column.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peng Ke whose telephone number is (571)272-4062. The examiner can normally be reached on M-Th and Alternate Fridays 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 2174